Projecting Public School Enrollment in Wisconsin, 2019

The Applied Population Laboratory (APL) is a group of research professionals at the University of Wisconsin-Madison specializing in population studies and geographic data analysis. For more than twenty years, APL has been working with Wisconsin's school districts on demographic analyses and school enrollment projections. In 2014, the APL conducted a statewide enrollment projections study examining school enrollment as it related to Wisconsin's broader demographic trends. This updated brief examines school enrollment since that time and the changing demographic trends which affect public school enrollment. The goal of this study is to provide school administrators, regional planners, and state officials with information regarding the past, present, and future direction of public school enrollment in Wisconsin.

Executive Summary

Between 2006/07 and 2018/19, 65% of Wisconsin's public school districts experienced enrollment decline. However, enrollment decline has not occurred uniformly across the state. Many school districts have seen increases, while others have seen sharp declines. Statewide enrollment declined by 2% overall during the last thirteen years. A few urban school districts and several suburban and exurban school districts have seen increases in enrollment, while most rural school districts and larger urban school districts (like Milwaukee Public Schools and Racine Unified School District) have experienced decline. This brief examines the demographic trends behind enrollment changes and presents projected scenarios for statewide public school enrollment over the next ten years. Based on the cohort component method, APL has generated projections for statewide 4K-12 public school enrollment by grade grouping, urban/suburban/rural locale, and race/ethnicity.

The number of kindergarteners enrolling in school in recent years has not kept pace with the number of graduating high school seniors largely due to the delay in births from the millennial generation. However, the growing popularity of the four-year old kindergarten program in many districts throughout the state has meant that recent declines in enrollment have not been as severe as it may have been without the program.

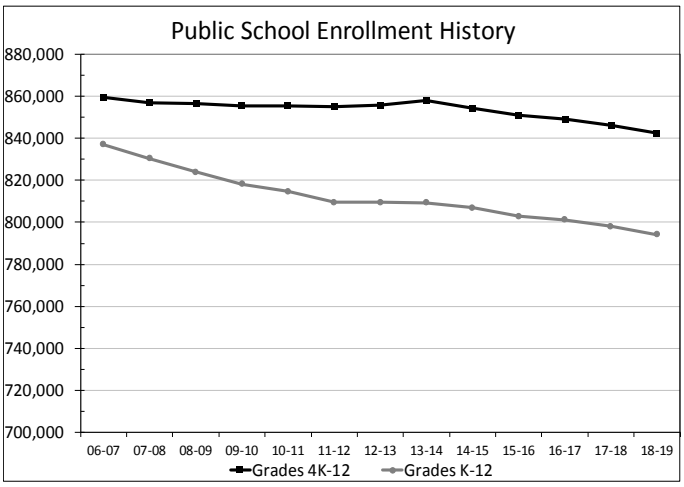
Our models suggest that there will be a decrease in total enrollment at the state level for the foreseeable future. In the near term, the majority of decline will be in middle schools (-5%), while elementary school enrollment will decline slightly less (-4.5%). In the next five years, high school enrollment will likely increase by 2% then begin to decline as the smaller middle school classes progress to high school.

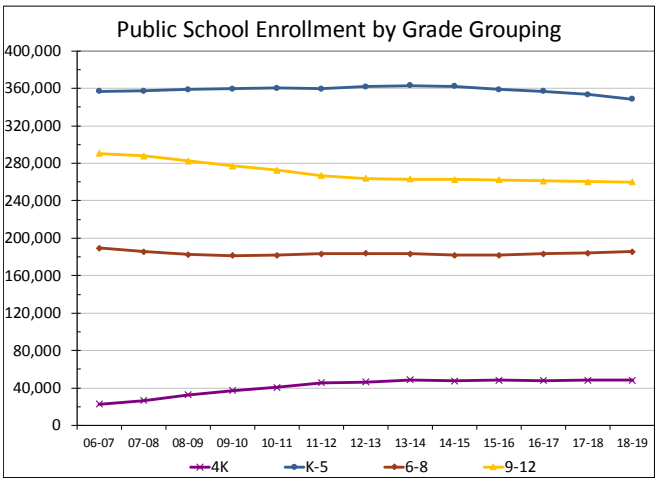
Students in urban school districts are projected to decline by 3.5%, while students in suburban districts are projected to grow by less than a half percent by 2023/24. Enrollment in town districts and rural districts, on the other hand, are projected to decline by as much as 4% over the next five years, largely due to declining births and an aging population.

Overall, students of color are projected to increase by 8% over the next five years. Enrollment projections by race/ethnicity point to the growing influence of the Latino and Asian population on Wisconsin's public schools. These students are projected to increase, while African American students are projected to remain steady in the near term. Non-Hispanic white and Native American students are projected to decline over the next five years and beyond.

Public School Enrollment History

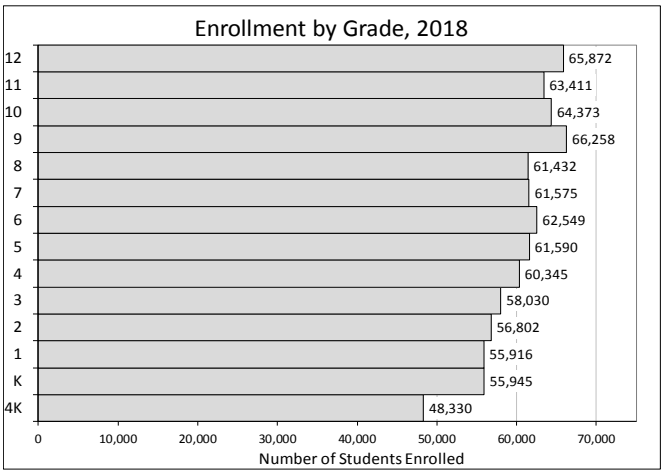
Statewide enrollment was at its historical peak in the 1970s when the baby boom generation was in school. Enrollment reached a second, smaller peak more recently in 1997 when the millennial generation was attending public schools. Since the mid-1990s, statewide enrollment has declined as the millennials have graduated and a smaller generation of students take their place in Wisconsin's public schools. The line graphs below show statewide public school enrollment histories by grade grouping from 2006/07 to 2018/19.

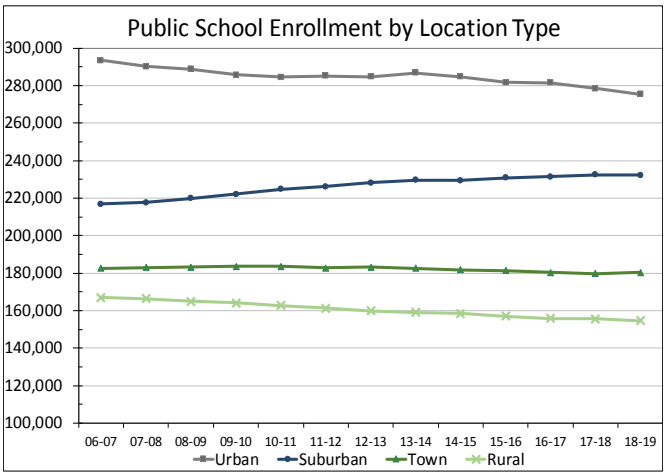




The addition of a four-year old kindergarten program has meant that district enrollments have not declined as much as they would have without this program. Decline in 4K-12 enrollment was only 2%, while K-12 enrollment has declined 5% in the last thirteen years. The greatest decline has occurred at the high school level with over a 10% decline, while elementary and middle school grades have only declined by 2%. The bar chart on the lower left shows enrollment totals by grade in September 2018.

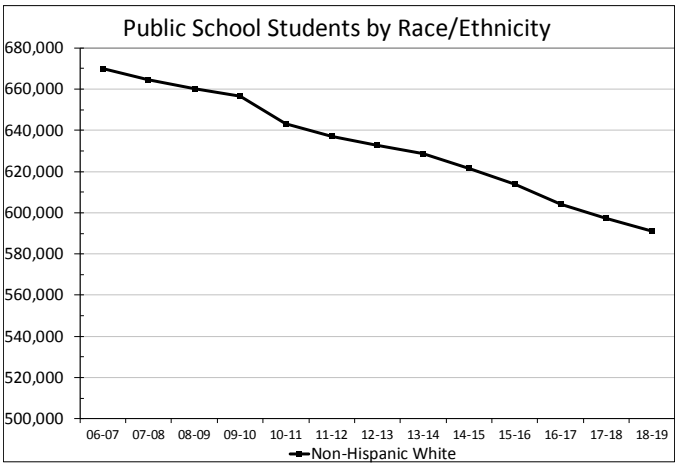
However, these trends in public school students are not uniform across Wisconsin. The chart on the lower right shows the change in enrollment by location type. Excluding Milwaukee Public Schools (-20%) and Racine Unified School District (-22%), enrollment in urban districts have declined by only 1.7%. Students in town districts have declined by 1.3%, while rural districts have seen the greatest loss of students with a decline of 8.0% in the last thirteen years. The only location type that has increased enrollment is suburban districts, which has grown by 6.7%.

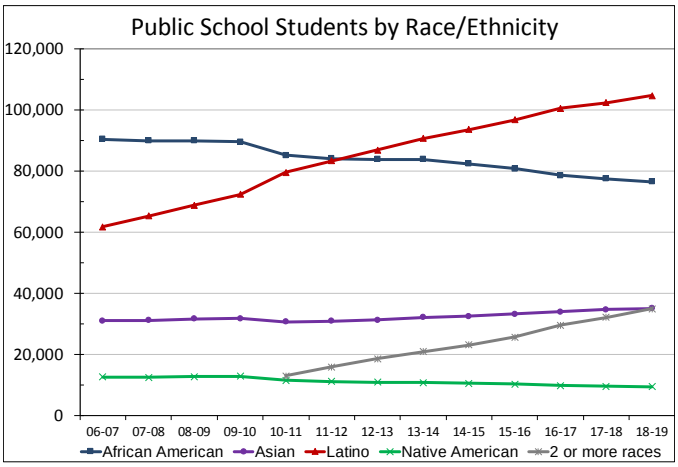




Public School Enrollment by Race/Ethnicity

The charts below show statewide public school enrollment histories by race/ethnicity from the 2006/07 to 2018/19 school years. The chart on the left shows the non-Hispanic white student population, while the chart on the right illustrates the students of color from the last thirteen school years.

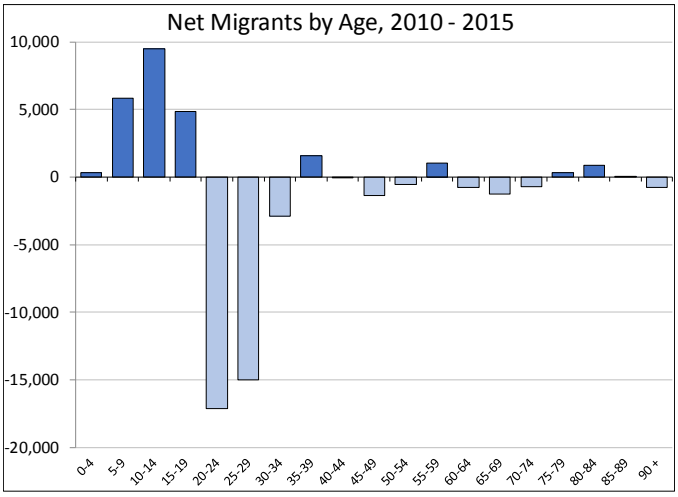




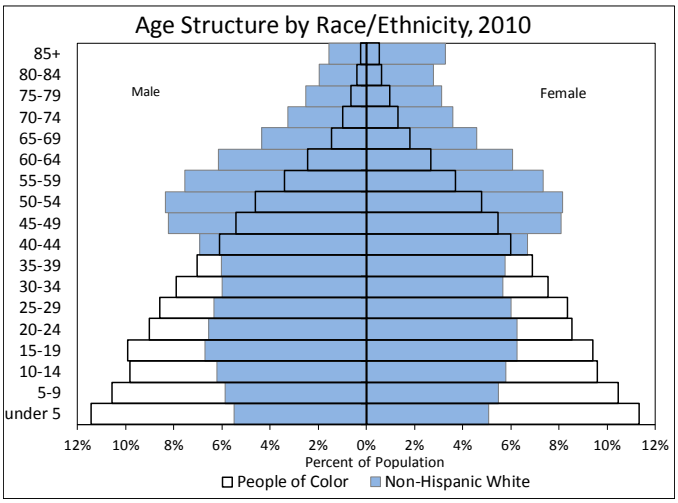
In 2018/19, the largest number of students were non-Hispanic white at 69%. The second largest racial/ethnic group of students were Latino at 12%, followed by African American at 9%. Two or more races and Asian students made up 4% each of the student population. Only 1% of students were Native American. Non-Hispanic white students have declined by almost 12% in the last thirteen years. African American and Native American students have also declined in this same time period (by 15% and 25%, respectively). Asian and Latino students have increased (by 13% and 69%, respectively). In 2010, students could report their race as "two or more races," and in the last nine years, the students of two or more races have increased by 168%.

Migration Trends and Age Structure

Populations change through natural increase (births minus deaths) and net migration (incoming migrants minus outgoing migrants). Migration is driven by a population's age structure and social and economic factors. In the 1990s, 227,637 people were added to the state's population due to migration. The 2000s saw another smaller addition of 79,938 people. Utilizing estimation techniques from the state's Demographic Services Center, the chart on the right shows the net migrants by age from 2010 to 2015. During this time Wisconsin experienced a net loss of 16,027 residents with the largest reduction in the 20-29 age categories, but an increase in the 5-19 age categories.



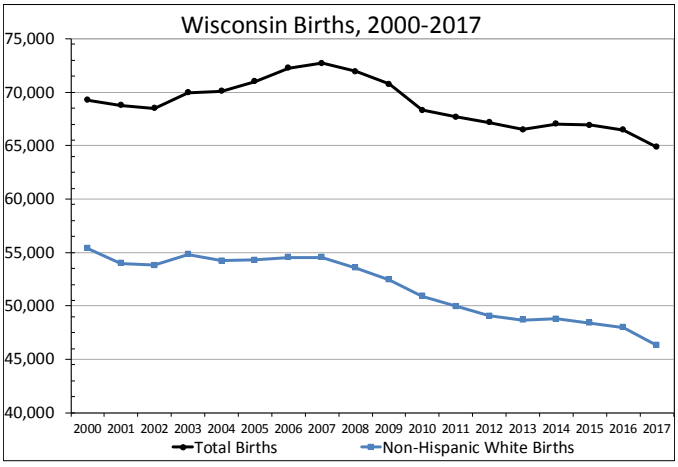
The shifting age structure of the total population and trends in migration and births impact the number of school age children attending public schools. The chart on the right shows the age structure in the State of Wisconsin by sex and by race/ethnicity in the form of a population pyramid. The population pyramid showing people of color characteristically represents a growing population, with more young people. Proportionally, the total population of all race/ethnicities is notably younger than the non-Hispanic white population. Thus students of color can be expected to make up a growing proportion of the number of children in Wisconsin's schools.

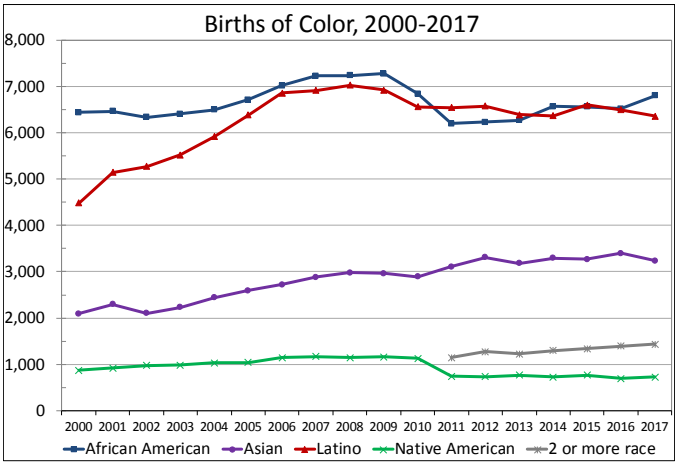


Birth Trends

In the 1990s, as a smaller population of women aged into their childbearing years, the number of births in Wisconsin decreased. However, the number of births rose in the 2000s, increasing until 2007. Then another decline in births occurred as a result of women postponing childbirth. This recent decline is often attributed to the Great Recession. Although the economy has shown signs of recovery over the subsequent decade, births in Wisconsin have not rebounded.

While the total number of births in Wisconsin has been decreasing, trends vary by race/ethnicity. The chart on the left compares total births by all Wisconsin mothers to the number of births by non-Hispanic white mothers. Births to white mothers remained relatively steady between 2000 and 2007 and have decreased each year since 2008. Over the last seventeen years births to white mothers have declined by 16.4% with 55,381 births in 2000 compared to 46,298 births in 2017.





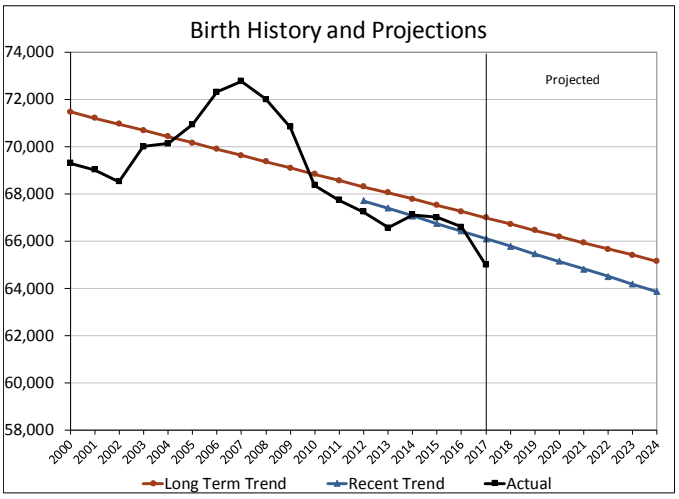
The chart on the right shows the births by mothers of color in the State of Wisconsin. In 2017, the percentage of births to non-Hispanic white women was 72%. Latino and African American births made up 10% each of the total state births. Births of Asian women and women of two or more races made up 5% and 2%, respectively.

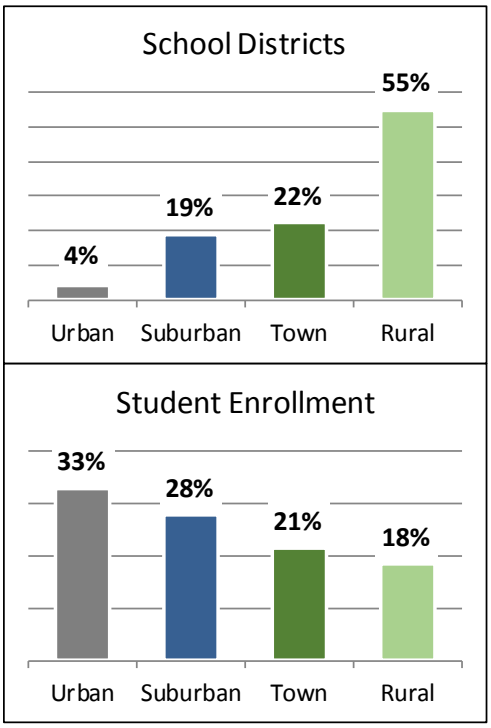
Only 1% of state births were to Native American women. Similar to the decline of non-Hispanic white births, the Native American births declined by 16.9% from 2000 to 2017. African American births increased by 5.7%, while Latino births increased by 42%. The percent of Asian births grew the most with an increase of 55%.

In sum, Wisconsin's population is growing older. While the baby boom population continues to age in place, the children of the baby boomers, although now in prime childbearing years, have delayed having children. The current age structure and fertility rates of people of color means a relatively large proportion of future births may be born to people of color.

Methodology for Enrollment Projections

The projection models utilize historical births to project future births. APL performed a linear regression on observed births over the last eighteen and six years. Three projection models using birth and enrollment trends are provided later in this report. The twelve-year trend model uses the long-term birth trend to project future kindergartners, while the six-year and three-year trend models use the recent birth trend. The chart on the left shows the actual births (2000-2017) and projected births (2018-2024).





Drawing on the National Center for Education Statistics locale codes[1], school districts are classified according to an urban-rural continuum classification: urban (18); suburban (79); town (93); and rural (231). The chart on the right shows the percentage of school districts classified into each category and the percentage of all public school students enrolled in each location type in the 2018/19 school year.

Although the majority of land in the state is town or rural, the majority of students attend urban and suburban schools. Urban districts make up only 4% of the total number of districts, but their enrollment comprises 33%

[1] Locale Boundaries User's Manual: https://nces.ed.gov/programs/edge/docs/NCES_LOCALE_USERSMANUAL_2016012.pdf

of all public school students. Suburban districts make up 19% of districts and 28% of the students. Town districts comprise 22% of districts and educate 21% of the students. Rural districts make up the majority of the districts at 55%, but only 18% of the students attend rural districts.

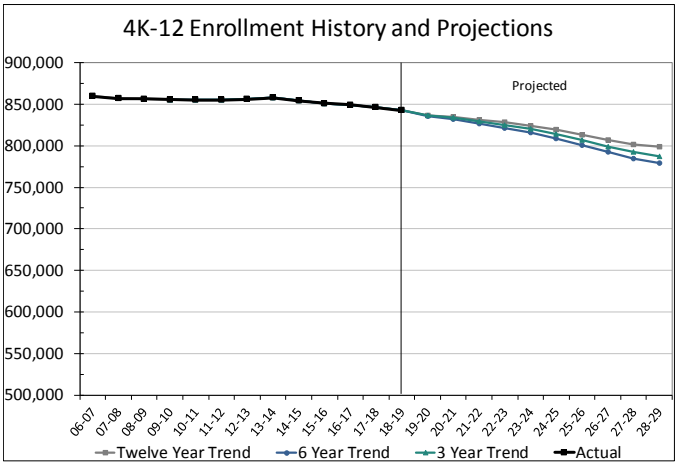
The cohort component method is used to project school enrollment by grade level ten years into the future. The method uses an average grade progression ratio from one grade to the next in order to determine the change in student enrollment over time. Also, an average ratio of births to kindergarteners is used to project future kindergarten enrollment. To project future grade cohorts, for example, we examine the average number of first graders in year 1 compared to the average number of second graders in year 2. Because the pattern of entry and exit from 1st grade to 12th grade are relatively consistent over time at the state level, the grade progression ratios for each grade transition remain mostly constant. Ratios of births to kindergarteners is less dependable because movement of families with young children are more difficult to predict.

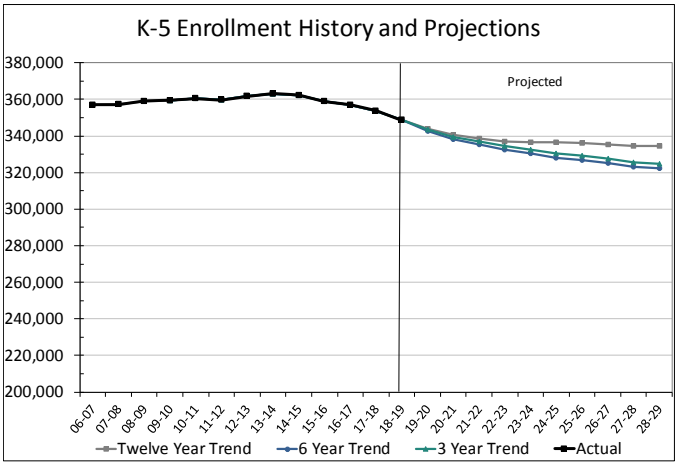
Data for Enrollment Projections

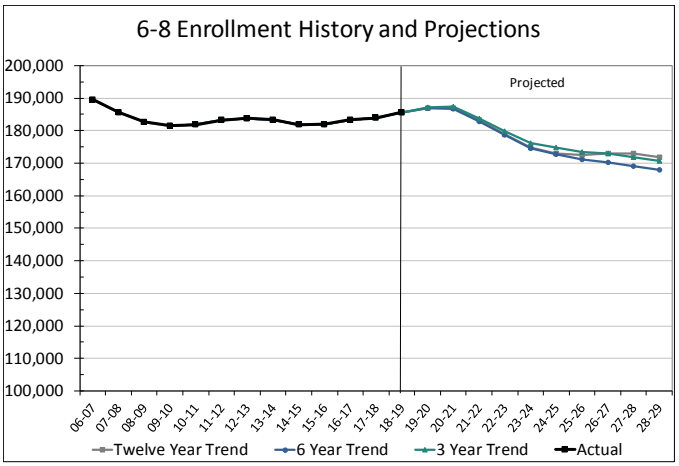
APL's projections are based on past trends of public school enrollment and observed and projected state births. Enrollment histories are composed of student counts in public schools on the third Friday of each September by grade and by race/ethnicity from 2006/07 through the 2018/19 school years, as reported by the Wisconsin Department of Public Instruction. Data on past births are taken from the Wisconsin Department of Health Services and represent reported births to women including the residence and race/ethnicity of the mother.

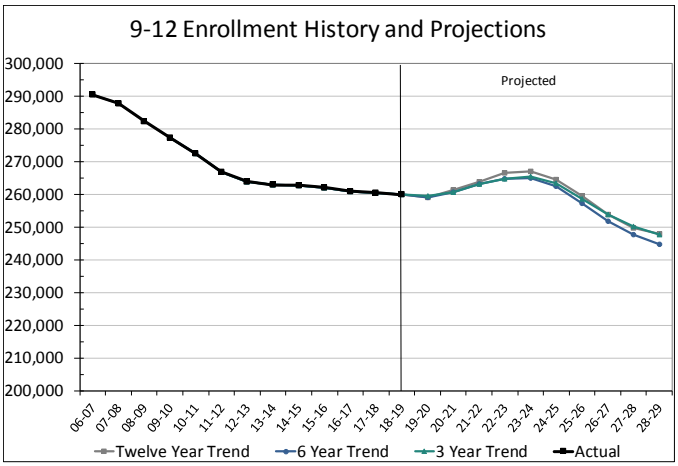
Public School Enrollment Projections

The following charts show the total (4K-12) statewide enrollment projections as well as the conventional grade groupings (K-5, 6-8, and 9-12). Public school enrollment is projected to decrease by 6.4% overall in the next ten years. Grades K-5 will decline for the foreseeable future with average decreases of 6.2%. Grades 6-8 are projected to remain steady for two years followed by decline by as much as 8.3%. Grades 9-12 are projected to increase over the next five years then decrease. In ten years, statewide high school enrollment may well decrease by 5%. Table A (page 9) shows the projected enrollment totals by grade grouping.



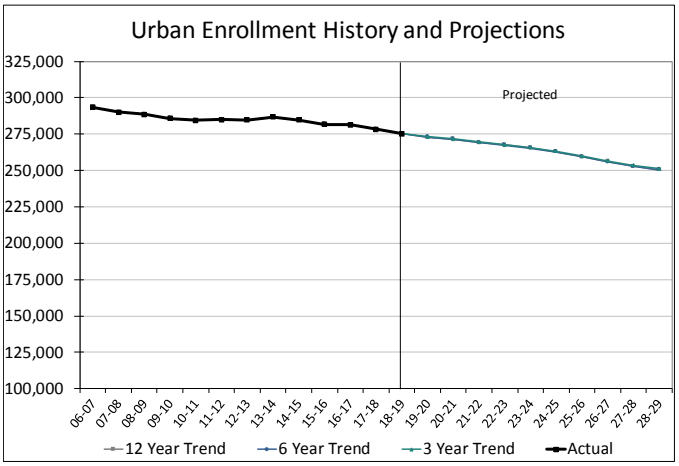


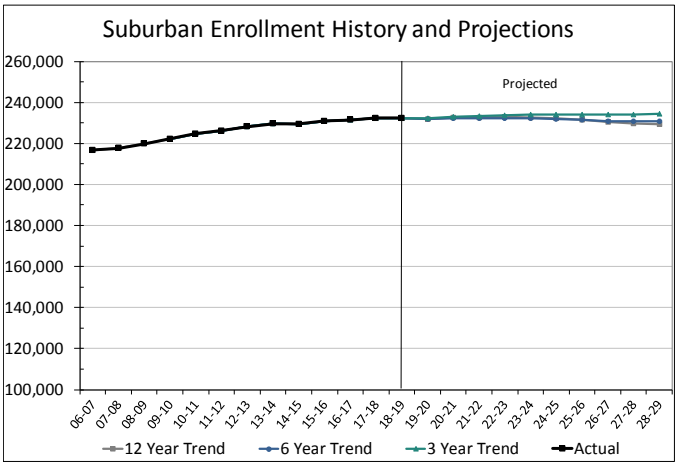


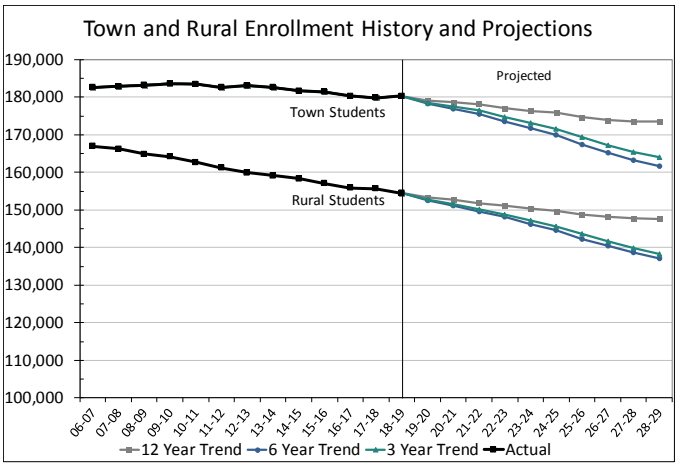


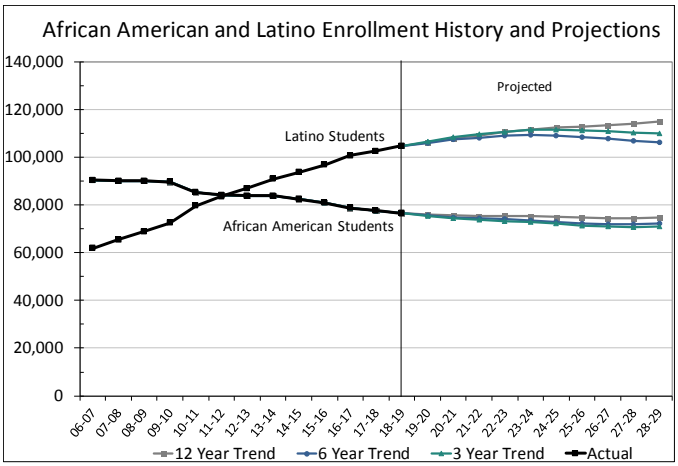
Public School Enrollment Projections by Location Type and by Race/Ethnicity

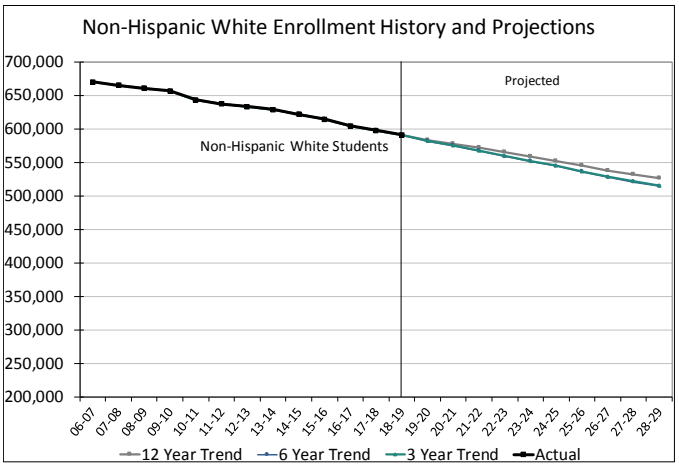
The number of students in urban districts are projected to decrease by 9% largely because of the Milwaukee and Racine school districts (excluding these districts enrollment could decline by 6%). Students in suburban districts are projected to remain steady over time. Student enrollment in town and rural districts are projected to continue to decline and enrollment may decrease by 7.4 and 8.5%, respectively. Table B (page 9) shows the projected enrollment totals by location type. Projections by race/ethnicity suggest that the number of non-Hispanic white students will continue to decline and decrease by 12%. African American students are projected to decline by only 5% in ten years, while Native American students are projected to decline by 29%. Latino and Asian students are projected to increase by 5.5% and 19%, respectively. Table C (page 10) provides the projected enrollment totals by race/ethnicity.

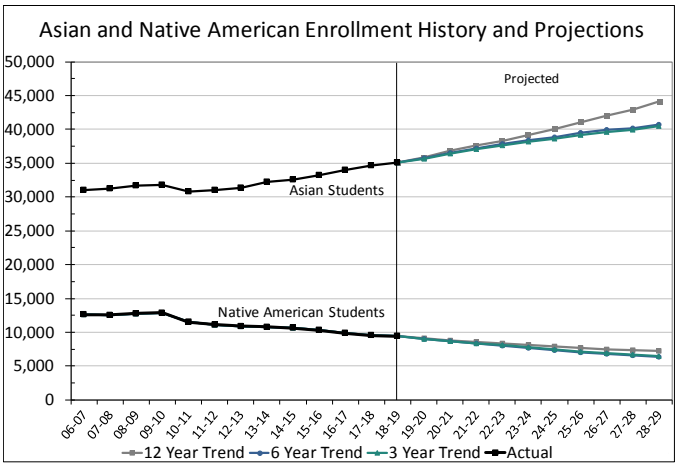












Conclusion

Many of Wisconsin's school districts are likely to face enrollment decline over the next ten years. This decline is expected to occur largely in the smallest and most remote districts, while districts in areas with people of color may increase. Districts that are located with a majority white and an older population may see more prolonged enrollment decline. Suburban school districts and those with a larger proportion of Latino and Asian students are the most likely to see enrollment increases.

Statewide public school projections will be more reliable over the next few years because most students have already been born and many are already in school. Because the projections found in this report incorporate the consequences of migration, any significant and sustained interruption of recent migration patterns will erode these models' accuracy from that point forward. As with nearly all types of forecasts, dependability in these enrollment projections decreases over time.

For more information contact Sarah Kemp, Researcher, at the Applied Population Laboratory, Department of Community and Environmental Sociology at (608) 265-6189 or kemp@wisc.edu.

Table A

Grades 4K-12 Enrollment Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Twelve Year Trend	836,750	835,070	831,475	828,285	824,305	819,723	813,289	807,149	801,985	798,873
Six Year Trend	835,542	831,906	826,719	821,338	815,549	808,861	800,355	792,200	784,878	779,501
Three Year Trend	836,819	833,835	829,668	824,845	820,043	814,340	806,693	799,266	792,523	787,687

Elementary School Enrollment Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Twelve Year Trend	343,949	340,412	338,691	336,985	336,709	336,704	336,151	335,282	334,455	334,430
Six Year Trend	342,788	338,033	335,155	332,289	330,264	328,163	326,773	325,025	323,269	322,248
Three Year Trend	343,510	339,348	336,999	334,460	332,628	330,639	329,237	327,473	325,702	324,676

Middle School Enrollment Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Twelve Year Trend	187,013	186,927	183,209	178,972	174,882	172,977	172,437	172,927	173,082	171,879
Six Year Trend	186,863	186,652	182,844	178,635	174,578	172,803	171,065	170,280	169,114	167,938
Three Year Trend	187,129	187,283	183,783	179,945	176,270	174,901	173,490	172,903	171,853	170,659

High School Enrollment Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Twelve Year Trend	259,115	261,275	263,955	266,716	267,065	264,617	259,498	253,961	249,692	248,031
Six Year Trend	259,218	260,766	263,100	264,801	265,058	262,470	257,315	251,916	247,739	244,781
Three Year Trend	259,507	260,748	263,266	264,827	265,497	263,376	258,763	253,910	250,212	247,819

Table B

Urban 4K-12 Enrollment Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Twelve Year Trend	272,687	271,228	268,785	267,227	264,987	261,901	258,372	254,646	251,190	248,573
Six Year Trend	273,020	271,473	269,170	267,385	265,354	262,504	259,178	255,690	252,424	250,039
Three Year Trend	273,386	271,725	269,610	267,693	265,803	263,106	259,862	256,469	253,240	250,841

Suburban 4K-12 Enrollment Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Twelve Year Trend	231,775	232,598	232,777	232,855	232,687	232,251	231,422	230,432	229,598	229,204
Six Year Trend	231,740	232,338	232,362	232,197	232,148	231,937	231,453	230,934	230,626	230,826
Three Year Trend	232,127	233,072	233,451	233,586	233,910	234,078	234,008	233,898	233,964	234,592

Town 4K-12 Enrollment Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Twelve Year Trend	179,014	178,592	178,094	177,066	176,342	175,820	174,693	173,887	173,480	173,485
Six Year Trend	178,230	176,909	175,548	173,617	171,762	169,876	167,360	165,116	163,190	161,559
Three Year Trend	178,538	177,477	176,412	174,726	173,159	171,571	169,295	167,219	165,443	163,937

Rural 4K-12 Enrollment Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Twelve Year Trend	153,274	152,653	151,819	151,137	150,289	149,751	148,802	148,185	147,717	147,612
Six Year Trend	152,560	151,191	149,636	148,134	146,276	144,526	142,337	140,421	138,584	137,005
Three Year Trend	152,769	151,560	150,196	148,840	147,171	145,585	143,527	141,680	139,876	138,317

*Location type projections were generated independently of the total projections (Table A).

Table C

African American Student Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Twelve Year Trend	75,842	75,502	75,256	75,378	75,262	74,964	74,633	74,359	74,248	74,686
Six Year Trend	75,534	74,813	74,261	73,920	73,449	72,876	72,319	71,935	71,758	72,119
Three Year Trend	75,392	74,452	73,815	73,271	72,707	72,053	71,400	70,910	70,602	70,806

Asian Student Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Twelve Year Trend	35,827	36,810	37,596	38,331	39,188	40,048	41,068	42,056	42,936	44,150
Six Year Trend	35,709	36,562	37,229	37,824	38,415	38,882	39,448	39,914	40,180	40,693
Three Year Trend	35,656	36,444	37,086	37,632	38,194	38,643	39,186	39,653	39,928	40,462

Latino Student Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Twelve Year Trend	106,153	107,995	109,136	110,549	111,585	112,339	112,868	113,299	113,971	115,012
Six Year Trend	105,939	107,391	108,175	109,004	109,328	109,070	108,455	107,627	106,874	106,337
Three Year Trend	106,407	108,238	109,471	110,632	111,384	111,527	111,281	110,791	110,307	110,007

Native American Student Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Twelve Year Trend	9,105	8,838	8,571	8,345	8,115	7,895	7,675	7,513	7,360	7,205
Six Year Trend	9,031	8,679	8,331	8,018	7,692	7,368	7,054	6,811	6,590	6,373
Three Year Trend	9,045	8,712	8,384	8,082	7,773	7,461	7,161	6,926	6,718	6,520

Non-Hispanic White Student Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Twelve Year Trend	582,913	577,598	571,254	564,693	558,473	552,374	544,928	537,863	531,626	526,440
Six Year Trend	581,710	574,820	567,104	558,979	551,566	544,247	535,733	527,707	520,553	514,475
Three Year Trend	581,785	574,823	567,189	559,070	551,833	544,747	536,449	528,578	521,559	515,624

Two or More Races Student Projections

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Six Year Trend	37,938	41,079	44,330	47,473	50,469	53,257	55,770	58,150	60,363	62,613
Three Year Trend	38,216	41,644	45,211	48,682	52,038	55,199	58,090	60,947	63,657	66,438

*Race/ethnicity projections were generated independently of the total projections (Table A). Projections for students of two or more races should be viewed with caution because the short time this DPI category has been available to families.